

WHAT IS CLAIMED IS:

1. A method for searching a return path of a moving object for use in a navigation system, the method comprising the steps of:

searching and storing an original driving path of the moving object, and guiding the moving object along the searched driving path;

deciding whether the moving object is deviated from the driving path;

when the moving object is deviated from the driving path, deciding a start point and return points for returning the moving object on the original driving path;

after searching respective paths from the start point to the return points, deciding a shortest path as an optimum return path; and

guiding the moving object to the original driving path along the decided return path.

2. The method according to claim 1, wherein the start point of the moving object on a deviated path is a present position of the moving object or a position that a user of the moving object inputs.

3. The method according to claim 1, wherein the return points of the moving object are comprised of at least one node existing on a path from a deviation point of the driving path to a destination.

4. The method according to claim 3, wherein the return points are comprised of adjacent return points to a position multiplied a predetermined constant by a deviation point used as a reference for the driving path of the moving object.

5. The method according to claim 3, wherein the return points are comprised of a last deviation point from the driving path, a deviated distance from the deviation point, and at least one node existing on a digitized map, particularly at a distant position in a direction from the deviation point of the driving path to the destination by a predetermined multiple of the deviated distance.

6. The method according to claim 1, wherein the optimum return path is decided by searching and storing respective paths that connect the start point of the deviated moving object from the driving path to the return points existing on the driving path, and by deciding a shortest path as the optimum return path.

7. The method according to claim 1, wherein a search result of the return path is provided to the user of the moving object, and on the basis of distance and time information to return on the searched return path from a present position, the user decides a return path.

8. The method according to claim 1, wherein the return path of the moving object is greater than a deviated distance of the moving object, and less than a distance from the deviation point to a destination.

9. The method according to claim 1, wherein return path searching for the moving object is performed by using GPS position data transmitted from a plurality of GPS satellites, and digitized map data.

10. The method according to claim 1, wherein the guidance of the moving object to the return path comprises substeps of:

confirming whether the moving object is returning on the original driving path; and
when the moving object returns on the original driving path, guiding the moving object to continue travel along the original driving path.

11. A navigation system, comprising:

a GPS receiving means for receiving position data transmitted from a plurality of GPS satellites;

a map data storing means for storing digital map data;

a user input means;

a display and a voice output means for providing a user of a moving object with a driving path; and

a main control means for setting a driving path from a present position of the moving object to a destination on the basis of the GPS position data and the digital map data, storing the driving path, guiding the user to the driving path, and when the moving object is deviated from the driving path originally set, for searching and deciding a shortest optimum return path and guiding the user to the decided return path.

12. The navigation system according to claim 11, wherein the return path is selected among return paths that respectively connects a last deviation point from the driving path due to deviation of the moving object, that is, a start point of a deviated moving object, to a set of return points that is comprised of adjacent nodes positioned on the driving path, in which the nodes are distant from the deviation point by a predetermined distance.

13. The navigation system according to claim 11, wherein the main control means designates the start point of the moving object on the deviated path as a present position of the moving object or a position the user of the moving object inputs.